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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/875,323	06/06/2001	Dale Starkey	3833-010852	7514

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EXAMINER

SELLERS, ROBERT E

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 11/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/875,323

Applicant(s)

STARKEY, DALE

TH

Examiner

Robert Sellers

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 4,5 and 16-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/01, 10/02, 11/03.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

1. The election with traverse of Group I in the reply filed on October 8, 2004 is acknowledged. The traversal is on the grounds that claims 4 and 5 of Group II further containing a polyol are based on the same generic composition as in the claims of Group I, and the searches of either group would overlap. This is not found persuasive because the polyol of Group II involves a materially different reactant which initiates a distinct mechanism of opening the anhydride ring for reaction with the epoxy resin. Such a diverse reactant requires further searching and yields a chemically distinct reaction product.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 4, 5 and 16-32 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction requirements in the replies filed on July 15 and October 8, 2004.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-3 and 6-15 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 6-11, 16-21, 27, 31 and 32 of copending application no. 10/667,706 as represented by U.S. Publication No. 2004/0063840.

The copending application claims a composition comprising an epoxy component, an anhydride, an antioxidant and a visible light-emitting phosphor. Claim 27 of the copending application denotes the partial curing of the composition. It would have been obvious to prepare the composition of the copending application in a partially cured state in order to fix the uniform distribution of the phosphor throughout the epoxy component matrix.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-3 and 6-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

4. The specification on page 5, paragraph 21, states: "In order to promote reaction of the cyclic anhydride component and the epoxy component, the anhydride ring **must be opened** [emphasis added]." Paragraphs 27 (page 7) and 32 (page 9) further emphasize the criticality of the role of the polyol in causing the reaction between the epoxy resin and anhydride. One skilled in the art cannot make the invention without the presence of the polyol.

5. More favorable consideration would be given to the insertion into independent claims 1, 11 and 16 of the polyol of claim 4 along with the introduction of the anhydride component of claim 1 into claims 11 and 16. Contingent upon such amendments, the restriction between claims 1-3 and 6-15 vs. claims 4 and 5 would be rescinded.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3 and 6-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. There is no antecedent basis for "said molding compound" in claim 1, line 6 since claim 1 is directed to a composition of matter.

7. The "epoxy component" in claims 1, 2 and 7 as well as the "epoxy compound" of claim 15 does not clearly define the epoxy resin as described on page 5, paragraph 20 of the specification. The terms "component" and "compound" encompasses materials other than epoxy resins such as monoepoxides and organic compounds with epoxy groups outside of an epoxy resin which has at least two epoxy groups per molecule that enables a curing reaction with the anhydride.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3 and 6-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rubinsztajn Patent Nos. 6,617,401 (Rubinstztajn '401) and 6,632,892 (Rubinstztajn '892); and Shaddock Patent No. 6,518,600 and Japanese Patent No. 52-15539.

8. Rubinsztajn '401 (col. 2, lines 54-63; col. 5, lines 19-36; col. 10, lines 3-6 and col. 13, lines 16-23) and Rubinsztajn '892 (col. 2, lines 19-26; col. 5, lines 3-17; col. 6, line 27; col. 10, lines 37-40 and col. 14, lines 38-46) disclose encapsulants for light-emitting diodes comprising an epoxy resin, an anhydride, a polyol, and a phosphor wherein the formulation is partially hardened prior to molding and cure.

9. Shaddock (Figure 1, col. 3, lines 30-33) depicts a first encapsulant 11 derived from an epoxy resin and a phosphor (col. 5, lines 16-24) which is partially cured (col. 6, lines 3-6 and 31-32). The Derwent abstract of the Japanese patent espouses a molding composition prepared from an epoxy resin, a hardener and a luminescent pigment which is heated at a temperature below the curing temperature to form a mass.

10. The Rubinsztajn patents and Shaddock designate the phosphor as optional. It would have been obvious to incorporate the phosphor of the Rubinsztajn patents and Shaddock into their formulations in order "to optimize the color output of the LED (Rubinsztajn '401, col. 13, lines 16-19; Rubinsztajn '892, col. 14, lines 38-41 and Shaddock, col. 5, lines 16-18)."

11. Shaddock and the Japanese abstract do not recite the claimed anhydride. It would have been obvious to use the anhydride of the Rubinsztajn patents as a hardener for Shaddock and the Japanese patent in order to facilitate the curing of the epoxy resin.

12. The Japanese abstract does not identify the luminescent pigment. It would have been obvious to employ the phosphor of the Rubinsztajn patents and Shaddock as the luminescent pigment in order to optimize the color output. A copy of Japanese Patent No. 52-15539 (cited in the Information Disclosure Statement filed October 29, 2002) or an English equivalent or translation is requested to ascertain the particular disclosed species of epoxy resin, hardener and luminescent pigment.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over the Rubinsztajn patents, Shaddock and the Japanese patent as applied to the claims hereinabove, and further in view of Fetscher et al. Patent No. 3,849,383; Landers, Jr. et al. Patent No. 6,246,123 and Shimada Patent No. 6,713,571.

13. The Rubinsztajn patents, Shaddock and the Japanese abstract do not recite the triglycidyl isocyanurate.

14. Fetscher et al. sets forth an encapsulant for a light-emitting diode (col. 1, lines 35-37) containing triglycidyl isocyanurate, a polyol and hexahydrophthalic anhydride (col. 2, lines 8-16) which is pre-reacted and B-staged (col. 5, lines 50-60).

15. Landers, Jr. et al. (Figure 3 and col. 5, lines 10-12) is directed to an encapsulant 34 for a light emitter 32 obtained from triglycidyl isocyanurate and hexahydrophthalic anhydride (col. 2, line 65 to col. 3, line 2).

16. Shimada is drawn to an encapsulant for a light-emitting diode (col. 5, lines 34-36) comprising preferably triglycidyl isocyanurate (col. 2, lines 27-31), preferably hexahydrophthalic anhydride (col. 2, lines 54-56), a glycol modifier (col. 3, line 59) and various known additives (col. 3, lines 47-50). The encapsulant is semi-cured (i.e. B-staged) and aged to regulate the viscosity (col. 4, line 48 to col. 5, line 5).

17. It would have been obvious to utilize the triglycidyl isocyanurate of Fetscher et al., Landers, Jr. et al. and Shimada as the epoxy resin of the Rubinsztajn patents, Shaddock and the Japanese patent in order to

- 1) prevent discoloration when cured with an anhydride
(Fetscher et al., col. 3, line 71 to col. 4, line 2),
- 2) attain an index of refraction which is compatible with optoelectronic devices
(Landers, Jr. et al., col. 1, lines 38-40 and col. 2, lines 13-16), and
- 3) improve the transparency and resistance to coloration
(Shimada, col. 2, lines 27-31).

Claims 1-3 and 6-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada in view of the Rubinsztajn '401 and Shaddock.

18. Shimada is described in paragraph 16 hereinabove. The claimed phosphor is not recited. It would have been obvious to incorporate the phosphor of Rubinsztajn '401 and Shimada as a known additive of Shimada in order to optimize the color output of the LED.

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